

Advisory Committee on Commercial Remote Sensing (ACCRES)

Tuesday, April 3, 2018 – 9:00 AM – 3:30 PM

Silver Spring Civic Center, 1 Veterans Place, Silver Spring, MD 20910



Meeting Attendees

- **Herb Satterlee (Chair)**, Unaffiliated, formerly of McDonald, Dettwiler and Associates Information Systems, Inc., (U.S. Subsidiary)
- **David Germroth**, XPressSAR
- **Todd Harrison**, Center for Strategic and International Studies
- **Adil Jafry**, Chandah Space Technologies
- **Michelle Kley**, Maxar Technologies
- **Bhavya Lal**, Institute for Defense Analyses
- **David Langan**, Umbra Lab, Inc.
- **Benjamin Malphrus**, Morehead State University
- **David Turner**, Department of State
- **Brian Weeden**, Secure World Foundation
- **Taylor Jordan**, Senior Policy Advisor, NOAA
- **Mark Paese**, Deputy Assistant Administrator for Satellite and Information Services, NOAA
- **Tahara Dawkins**, Director of Commercial Remote Sensing Regulatory Affairs and Committee Designated Federal Official, NOAA
- **Glenn Tallia**, Office of General Counsel, NOAA

*Joanne Gabrynowicz was unable to attend due to lack of travel support and lack of conference call capabilities in the meeting room.

Meeting Minutes

23rd Meeting of the ACCRES Committee

ACCRES Welcome & Introduction from the Chair – Herb Satterlee

- Herb also welcomed the Committee for the first meeting of the year and reviewed the agenda for the meeting.
- He welcomed new members and the audience.

ACCRES Introduction – Mark Paese

- Mark Paese welcomed the Committee back for the 23rd ACCRES meeting. Mark is currently the Deputy Assistant Administrator for Satellite and Information Services (NESDIS) at the National Oceanic and Atmospheric Administration (NOAA).
- Mark congratulated NOAA licensees who have recently had successful launches. Space X launched two licensed satellites on February 22, 2018.
- Planet, Tyvak, and Astro Digital all also successfully launched satellites in January.
- Planetary Resources also launched their first satellite Arkyd-6 in January. They will launching another satellite soon to begin their innovative asteroid mining mission.
- Additionally, he mentioned that NOAA looks forward to seeing 27 licensees launch over an incredible 130 additional satellites by the end of this year.
- Mark introduced Taylor Jordan, who followed Mark with the opening remarks. Taylor is a Senior Policy Advisor at NOAA.

Opening Remarks – Taylor Jordan

UNCLASSIFIED

- Taylor thanked Mark for the introduction and the members and audience for attending the 23rd meeting of the Advisory Committee on Commercial Remote Sensing (ACCRES).
- He also welcomed new members to the Committee:
 - Jason Andrews, the President and CEO of Spaceflight Industries and BlackSky Global,
 - David Germroth, co-founder of XPressSAR
 - Adil Jafry, the President and CEO of Chandah Space Technologies
 - and Michelle Kley, Senior Vice President and General Counsel at Maxar Technologies
- He mentioned that NOAA has made great strides in filling the leadership team recently, so people will likely see many new faces in the upcoming meetings, including his.
- Taylor serves as a Senior Policy Advisor at NOAA, where he focuses primarily on advising the NOAA Under Secretary on NOAA policy issues, particularly satellite policy.
- His focus in this area is on reducing the regulatory burden on the satellite industry, and reforming regulations to promote domestic growth of the industry. This includes promoting a one stop shop for commercial space endeavors.
- He also shared news of the recently appointed Assistant Secretary of Commerce for Environmental Observation and Prediction, a position that has now been filled by Dr. Neil Jacobs, whom he also works with in the capacity to promote better U.S. satellite policy. He could not be at the meeting, but sends his regards and may come to future meetings.
- He mentioned that the Commercial Remote Sensing Regulatory Affairs office is moving directly to the Department of Commerce, as such his role and NOAA's role will be different from what it has been in the past in issuing licenses and regulating the commercial remote sensing industry and that includes the Advisory Committee on Commercial Remote Sensing.
- For the interim, he noted that he will continue to support the initiatives of CRSRA and ACCRES, and not to hesitate to reach out to him or other NOAA leadership.
- He noted that the new administration has made it clear that enhancing U.S. remote sensing capabilities is a priority, and so changing the way we regulate and license industry has been identified as an important way for NOAA to facilitate that.
- Part of the impetus for this priority is also due to the changing commercial remote sensing industry:
 - There are major technological developments occurring in this sector with increased remote sensing capabilities, reduced barriers to space, and growing business interest in satellite based data systems.
 - What we have especially found as the industry has been changing, is that we're seeing more disruptive technologies that do not really have a clear place in the regulatory regime. So how do we regulate these missions and technologies or do we even need to? These are the questions that the government and industry is grappling with and he hopes will be a part of the discussion at ACCRES.
- In order to address these challenges, ACCRES plays, as it has since 2002, a key role.
- As a direct result of this rapidly changing environment, NOAA asks the Committee to help evaluate and address the following priorities this year:
 - Updating the commercial remote sensing regulations, 15 CFR Part 960, which were last published in 2006, and are considerably outdated. A part of the impetus for this update is that the US Government recently implemented a new Memorandum of Understanding between the various interagency members, which NOAA has found to be incredibly successful so far. The one listed in the current regulations is outdated now.
 - Taylor also wanted to give an opportunity to the Committee to help develop additional pain points that they see in the regulatory process that they believe are worth investigating.
- Finally, Taylor mentioned that NOAA would like to formally thank the Committee for submitting the recommendations and reports for last year's priorities. He looks forward to hearing your thoughts and advice at this meeting.

Commercial Remote Sensing Regulatory Affairs (CRSRA) Update – Samira Patel, Analyst at The Aerospace Corporation

- Samira introduced herself as Aerospace contract support to the Commercial Remote Sensing Regulatory Affairs office, aiding mostly with licensing and ACCRES activities.
- CRSRA Facts & Figures
 - In licensing, in 2017 NOAA has received initial contact forms from 47 entities requesting a determination on whether or not they needed a NOAA license. A 14% increase (from the 41 entities) in 2016. 19 of those entities were told that they needed a license and 28 were told that they do not need a license.
 - NOAA has issued 16 new licenses, 11 were to new license applicants.
 - In addition to evaluating new requests, reviewing applications, CRSRA and the interagency also processes other actions – everything from amending current licenses, reviewing waivers and foreign agreements, and issuing new licenses. In 2016 NOAA licensing processed 33 such actions. In 2017, NOAA processed 43 actions, an increase of 30%.
 - There are currently 200 licensed ground stations. Of those 123 are active sites, which is a 20% increase from our 2016 numbers (102 active sites). Those ground stations are on all seven continents, in 28 countries and 90 cities. Some of the most popular ground station locations are unsurprisingly in Norway, Antarctica, and New Zealand. In 2018, added countries will include Australia and Scotland.
 - There are currently 239 license satellites on orbit, and increase of 32% since 2016 (180 satellites). Of those, about 185 are operational. It's also important to remember that there are currently 908 satellites that are licensed. So even though there are only 239 on orbit, there are plenty more that are licensed to operate.
- 2018 Licensing Activities
 - CRSRA has so far, issued 6 licenses
 - The week prior to ACCRES, licensing closed 11 actions, with 2 currently ongoing actions
 - In 2018, licensing so far received initial contact forms from 10 entities, 6 of which have been informed that they need a license.
 - Currently, there are 43 licensees holding a total of 60 licenses from NOAA, which of course is an all time high. Every year, the number increases. The number of license closures is so small in comparison to the number of licenses that are issued.
 - Licensing has also completed issuing and reissuing all licenses in the new format, which is a much more streamlined version that includes appendices only for those licensees who have additional conditions based on the technical parameters of their missions.
 - Licensing has also seen success in using the newly instated Memorandum of Understanding among the Departments of Commerce, Defense, State, and Interior and the Office of the Director of National Intelligence, which went into effect April 2017.
 - To provide everyone with a sense of the decrease in time it has taken to issue a license NOAA calculated average time it's taken to issue licenses. In 2015, it took an average of 210 Days with 14 Licenses Over the 120 Day Time Limit; 1 License Completed On Time. In 2016, it took an average of 140 Days with 7 Licenses Over the 120 Day Time Limit; 5 Licenses Completed On Time. In 2017 it took an average of 91 Days with 2 Licenses Over the 120 Day Time Limit and that was only by a few days; and 14 Licenses Completed On Time. These stats include all licenses, even the ones that took a significant time to process. In order to properly show the effect of the MOU, the averages for the year include license actions that began in that year, not by the year they were completed.
 - NOAA has been able to invoke the MOU and call a meeting for the first level of the escalation process for 14 actions so far, and has been able to move those actions forward and process them in a timely manner.

- Finally, CRSRA is working on organizing a multi-day workshop, across the government regarding satellite licensing, which would include FCC/FAA and other agencies involved in satellite licensing. We hope to hold this workshop in late summer/early autumn. We're hoping something like this will help entities determine who they need to go to for what and to clarify the licensing requirements across the various government agencies.
- 2018 Compliance Activities
 - Compliance completed processing and reviewing 1Q FY2018 quarterly audits. Each on-orbit Licensee should have received additional follow-up if necessary and ultimately an approval determination. By today, each Licensee required to submit a 2Q FY2018 audit, should have received notification.
 - 13 Data Protection Plan actions have been processed thus far in FY 2018, in all of FY 2017 CRSRA processed a total of 18 DPP actions. Compliance is on track to exceed the previous year's workload.
 - CRSRA has only completed 4 site inspections for the current year, although there are approximately 123 active sites. CRSRA anticipates completing 28 inspections this year. However, that number still falls short. As the number of Licensees increase and ground architectures become increasingly diverse, CRSRA will be looking for new ways to ensure compliance.
 - Compliance has conducted 14 Pre-launch reviews this year.
 - Since the beginning of FY 2018, 21 licensed systems have launched. Echoing Mark, Samira congratulated all of the listen Licensees on their continued success.
 - Based on Licensee notifications we can expect the launch of approximately 105 systems by the end of this year.
 - Additionally, Compliance and Monitoring is adjusting to rapid growth and change in the industry. They are attempting to update the processes to meet Licensee needs while guarding against new security threats. Here are a few of the changes that have been made:
 - CRSRA has changed to the audit cycle to allow Licensees to submit the quarterly audit 15 days after the end of the quarter. Submission of the annual audit has been changed to July 15th. All Licensees received notification of this change earlier this year. The new due dates are also listed in the newly formatted licenses.
 - The quarterly audit underwent a re-write and was released for use in the submission of the 2Q FY18 audit submission. The purpose of the audit is to gain additional information on the operations of all licensed system. Previously, outside of site inspections there was a large disconnect between our office and satellite operations. CRSRA is attempting to greater insight into licensee activity through the use of our audits and other measures.
 - As an update to previous announcement made at ACCRES, CRSRA will now accept electronic submissions of the quarterly audit. Hardcopies of the quarterly audit are not required.
 - CRSRA will continue to work on updating our audit documentation and move to more digital processes as the regulations allow.
 - Previously DPPs were required 1-year prior to launch. As the lead time to satellite launch decreases, CRSRA is attempting to become more responsive to Licensee trends. DPPs are now required 120 days prior to launch. Please remember that an approved DPP is required before a licensee launches.
 - CRSRA is still working on the new DPP, which is discussed later in the meeting.
 - CRSRA is available for consultations prior to the formal submission of the DPP to prepare the document for interagency review
- Challenges
 - The first challenge CRSRA is having is with license determinations – or making determinations on who needs a license. Whether a license is needed is determined based on a myriad of policy, legal, and technical parameters. Sometimes a particular mission presents parameters where CRSRA needs to get a legal determination from NOAA General Counsel or a technical determination from Aerospace. This is actually becoming increasingly common with the growing complexity of missions.

- There are a few different issues within this challenge:
- At a most basic level, because NOAA regulates such a small chunk of the satellite industry, most people don't even know to come to NOAA to determine if they need a commercial remote sensing license. Generally, most people just think of needing a license to launch or an FCC license. So it's a matter to ensuring that people know that they ought be coming to CRSRA.
- Additionally, CRSRA increasingly gets inquiries regarding missions that have multiple different players that may potentially affect operations of a satellite, this includes when there's a partnerships between the government and a company or when a company/entity is contracting out certain operations. In these situations it's difficult to determine who should be the licensee or in the case of having a government partners, whether a license is even needed.
- Finally, CRSRA is increasingly dealing with trackers or sensors that are hard to determine if they have Earth imaging capability. For example, historically star trackers have been exempt from our license conditions; however, we are now receiving inquiries regarding trackers that aren't as straight forward as they used to be.
- CRSRA has an Initial Contact Form that entities can fill out. Once they fill it out, NOAA will evaluate the form and reach out with a determination on whether or not a license is needed. The form has a set of basic questions about the mission and is pretty easy to fill out. That's usually the first step CRSRA tells all new entities to complete. It's better to reach out and receive a determination, rather than finding out later that an entity may have needed a license.
- Another challenge that CRSRA is dealing with is compliance reporting.
- It is important to remember that any changes a licensee reports on annual and quarterly audits that are also changes in the parameters listed on your license, the licensee should separately contact licensing about applying for a license amendment. Annual and quarterly audits are submitted to Compliance, while License amendment request go to Licensing. An audit is a notification, and amendment is a request for change.
- The most common mistake is for a Licensee to notify NOAA of an additional ground station in an audit or other documentation but failing to request the license amendment.
- As the number of active ground stations increases, and the number CRSRA is able to inspect is limited to a small number that stays the same every year, CRSRA increasingly relies on other reporting mechanisms such as the audits to determine compliance. Therefore, it is incredibly important that Licensees provide accurate and timely information to the CRSRA office. Further if any information changes or becomes obsolete, the Licensee must notify our office. The number of violations have been increasing due to lack of compliance to the compliance requirements.
- Finally, Samira shares the same slide from the last ACCRES Meeting presentation on Kyl-Bingamin. Please note, that NOAA is aware that many people are interested in the review of the Kyl-Bingaman resolution restriction. CRSRA is still working on this issue. Thank you for your patience as we continue to complete our evaluation.
- Questions/Discussion
 - Jim Armor from Orbital ATK asked for examples of partnerships that make it difficult to determine the license operator. Samira mentioned public-private partnerships where the government might be sponsoring or funding a mission or is the exclusive client of the company or even whereby they may be aiding in parts of the operations. Jim asked if there were exclusive private partnership where this is a concern. Tahara mentioned that this happens exclusively in the private realm too with for example licensees that contract out to other companies to manage operations, like nanoracks in some cases.
 - Brian Weeden asked regarding what sort of efforts CRSRA was undertaking to increase community engagement, so more people know to come to CRSRA and to address other license determination concerns. Samira mentioned the workshop that CRSRA will be hosting in late summer/early fall. Tahara further added that the workshop will be 3 to 5 days and include other government agencies that license space-related missions/operations such as FAA and FCC, in addition to those that participate in

the interagency review process for NOAA licenses and for licenses. Glenn also added that NOAA does participate in space conferences to try and get the word out; however that is also dependent on funding.

Space X Statement – Tahara Dawkins

- The Interagency reviews commercial remote sensing of land and space imaging satellites for risks to national security and determines appropriate conditions.
- By statute and regulation, such reviews can take up to 120 days. The application was received 4 days prior to launch. Responding to the urgency, and in order to not delay the launch, the USG did an expedited review within 3 days.
- The Interagency agreed to the waiver of several requirements, for this case only, but was not able to approve live streaming of the event in the time available.
- With additional time to evaluate relevant information, the USG would be able to determine the appropriateness of live-streaming in future missions.
- Tahara looks forward to working with the commercial sector and ACCRES to further refine the existing non-Earth imaging framework to accomplish our national security goals while providing the commercial sector with the ability to innovate and perform new activities.
- Questions/Discussion:
 - An audience member asked if historically, launches have not needed a license, why does Space X suddenly need a license? Tahara responded that it had to do with their stage 2 deployment capabilities, where they enter Earth's orbit and therefore meet the criteria for a NOAA license as NOAA licenses the capability of a satellite (object in orbit) to image the Earth. Additionally, she mentioned that Space X came to NOAA with the licensing application, and she hopes that other entities doing similar work reach out to NOAA as well, so that CRSRA can start working with them to determine if they also need a NOAA license.

Nanoracks Overview – Richard Pournelle, Senior Vice President of Business Development at Nanoracks

- Richard introduced himself and Nanoracks, which has an intergovernmental agreement to help commercial payloads/cubesats utilize the International Space Station, with the aspiration to develop their own commercial space station.
- Nanoracks has worked with many different satellite and space companies including Virgin Galactic, Spire, Planet and Space Systems Loral. When working with various companies, Nanoracks asks companies to check the boxes where government licenses are needed. This is especially true for launch licenses and FCC licenses. NOAA licensing tends to be a smaller issue for Nanoracks customers as a box to check than other licenses, whereas, the FCC license tends to be the biggest pain point.
- Richard sees that the government may have missed the mark on the market for cubesats, and sees an ecosystem that Nanoracks can help develop within the commercial market where the government can't. Private industry can take more risks and thus build more and more innovatively. He especially sees that there is pressure from the Chinese entering the market, whereby entities are just putting together cubesats from parts made in China. Nanoracks can help develop a better market in the U.S.
- Specifically, the US Commercial Space Launch Competitiveness Act of 2015 has helped and can continue to help build up a customer base for Nanoracks.
- Additionally, in terms of space manufacturing, Nanoracks has recently built a new platform on the station, the Nanoracks Airlock after signing an agreement with NASA, which will allow for new experiments. The target for manifestation of this is 2019. He mentioned that with new technologies like this, it's important to remember that sometimes things happen within 3-4 days notice, such it's important for the commercial world to know where the lines are in terms of government policies and laws.

- Nanoracks also addressed their desire to build their own commercial space station after successfully completing a 5-month, NASA-funded conceptual study. Bhavya asked what the timeline for launching is for something like this? Richard mentioned that while Phase II, which is the study has been completed, they are looking to launch the first mission potentially in 2024.
- Tahara asked about Nanoracks support to hosted payloads that are on the Nanoracks platform, because it is difficult for CRSRA to determine who has operational control Nanoracks or the company and who has ultimate control in the case of shutter control, where the USG might need the licensee to shut down data downlinking. Who does the tasking? Richard responded that customer has no more than second latency. Ben Malphrus, from Morehead State, a past licensee that used Nanoracks services, mentioned that while using Nanoracks was easy and seamless, when doing the NOAA audit, they discovered that it isn't completely clear whether Morehaed emailing tasking commands allowed for them to be the ones to maintain operational control.
- Tahara asked if because of this confusion whether it would be Nanoracks that would need a license in addition to the licensee or where there needs to be something to address the complexity of this sort of licensee relationship. They don't fit a traditional NOAA licensee model.
- Dave Turner ask Richard about customers with satellites from other countries. Richard mentioned that they have relationships with 40 different countries, including Luxembourg, China, and the United Arab Emirates. They usually work with different foreign agencies to address whatever rules the country has. It not usually the space regulatory framework that causes the issues, but random strange rules and customs; however usually other countries are very excited about business with the US. Usually, when working with international satellites the regulatory requirements they focus on most is liability, space debris, and Radio Frequency (RF) use – so issues of space safety and usage of resources. They do have a satellite, Urthecast, that is on the Russia side of the International Space Station. Glenn mentioned that a lot of other countries do already have their own remote sensing regimes, such as Canada, Germany, and France.
- Bhavya mentioned with Nanoracks business model and especially with the creation of a commercial space station, how do we think about how to regulate or license something like that? Richard mentioned that the industry is trying to come up with their own rules of the road, such as a debris catalog process.

Consortium for Execution of Rendezvous and Servicing Operations (CONFERS) Overview – Brian Weeden, Executive Director of the Consortium and Director of Program Planning at the Secure World Foundation

- Brian introduced himself as from the Secure World Foundation, which is helping coordinate the efforts of private participating entities to develop on-orbit guidelines. This forum was originally initiated by DARPA with the goal of it becoming an endeavor for the commercial side.
- There is participation from entities that are conducting on-orbit servicing that can be binned in 6 different categories: 1) satellite inspection 2) life extension 3) satellite refueling 4) modular satellite assembly 5) deorbit/ end of life services 6) and other future on-orbit servicing technologies.
- SWF and the other organizations are under Contract to DARPA to begin developing norms and standards. The first year will be focused on rendezvous and proximity operations, to be provided to DARPA in November and then the second year will focus on satellite servicing.
- There are a few policy challenges for all involved activities. The first is that all activities will likely be conducting Non-Earth Imaging (NEI), there is no regulatory set of guidelines for the actual operations of rendezvous and service activities. So what should that look like and who should provide that regulatory framework? Additionally, there is a legal question of whether NOAA even has jurisdiction over companies that ONLY conduct Non-Earth Imaging.
- The second challenge is with space situational awareness and tracking for safety reasons. While Orbital ATK and Maxar may be established, how will start ups manage to integrate safety standards and have the resources and accountability to get them up to speed? Additionally, within the safety realm, there are orbital debris concerns as well.

- This year CONFERS has only been looking at behavioral standards, but they will be grappling with setting technical standards in the next year. There is a follow up workshop that will look at the kind of technical RPOs (rendezvous and proximity operations) that exist and are planned, and those entities will be contacted for the workshop.
- The additional question Brian posed is how these guidelines will work when half the world is left out. Right now de-orbiting services are only being provided by non-American companies and the Swedish have developed robotics in space for rendezvous, with one robot being called Mango and the other Tango.
- Questions/Discussion:
 - Todd asked if CONFERS was looking at non-cooperative incidents? Brian responded that right now they're looking at cooperative, robotics in space.
 - Jim Armour mentioned that CONFERS is a logical baby step, and that Orbital ATK as a company is willing to participate in this endeavor, but right now the government is footing the bill. They will have to determine if this is good for business. So they are still in the skeptical phase. They see that NOAA licensing with the NEI conditions has been fine and good starting point for the policy discussions regarding on-orbit servicing.
 - Tahara mentioned that she sees the NEI conditions as very permissive and enabling of greater on-orbiting missions. In the past, NEI was not allowed at all. Brian responded by saying that it is good to go from no to mostly yeses for NEI, but there are still some NEI conditions for space situational awareness that are still too restrictive. Additionally, Herb mentioned if this should even be regulations are it may generate uncertainty and was not the intent of the law.
- Tahara closed the discussion by stating the USG does not want to drive people overseas or destroy commercial viability so it's important to receive the feedback.

Public Comments – Morning Session

Tony Lin, Hogan Lovells: Have people left the United States due to any licensing conditions? Glenn responded that it's a little bit tricky because the law considers any US person, so entities and people can't just "leave" to evade the law. Additionally, it's generally the case that foreign competition comes to NOAA to regulatory input and if people go overseas they may have to face dual regulation.

Marcy Steinke, Maxar Technologies: The issue is ceding leadership to other countries. Brian Weeden responded that right now companies come to the US for manufacturers, capitol and talent, but that might not always be the case; for example Japan is really investing in space right now.

Anne Cortez, Conspec International: The FCC and NOAA licenses provide more certainty. Herb responded that it's because we've trained the investment community that licensing is required.

Commercial Space Reform Agenda – James Uthmeier, Department of Commerce

- James introduced himself as supporting the Secretary on space related activities. He has been working with the Secretary to oversee his vision for consolidating space-related activities at the Department of Commerce. According to him, as the Secretary stated at the National Space Council meeting in February, the Secretary sees it as very important to prioritize space-related activities at Commerce.
- They have been working closely to implement the changes that were outlined in the National Space Council meeting.
- They are working on an expedited timeline to develop the Office of Space Commerce under the Office of the Secretary and move CRSRA up to the office. In terms of the timeline, they just submitted the paperwork to OMB to make this change officially happen and are waiting to hear back.
- James has been participating with the integral people at the Department, NOAA and CRSRA in weekly space meetings to address the logistical details and make the transition as seamless as possible.

- Jim asked him the Department is working with the legislative side at all? James responded that they have been working with Congress to submit the necessary information there as well.
- James solicited feedback from the audience to see what they would like to see happen in terms to implementing the vision laid out for space-related activities at the National Space Council meeting.
 - Rich Leshner from Planet, recommended that updating the regulations could provide quality input more so than legislation, so if there is an impetus to see change happen, it's best to focus on improving regulations.
 - Brian Weeden mentioned that it while it's nice to see the space council's decisions, it would be helpful to see and participate in the behind the scenes discussions of what goes into the decisions, which could help improve decision making process.
 - Anne Cortez recommended creating a task force across all agencies so that they could swap notes on improving space policies.
- James also mentioned that The Department will be hosting a Summit called SelectUSA from June 20th to the 22nd, and this one will specifically be space-focused. SelectUSA focuses on investment opportunities in the USA and brings business leaders from around the world. This would be for good for emerging commercial space missions, as Todd clarified.

ACCRES Recommendations Report Out – Tahara Dawkins

- Tahara thanked the Committee for submitting recommendations to NOAA. Since receiving the recommendations from ACCRES on February 12, 2018, this has been the quickest that they have been seen at all levels of the government – Secretary Ross, RDML Gallaudet, the current Acting NOAA Under Secretary, and Dr. Volz have all received and reviewed the Committee reports from all three task groups.
- Task Group 1: Response to the American Space Commerce Free Enterprise Act –Related to the Commercial Remote Sensing Provisions
 - Tahara mentioned that she is not going to spend time discussing the specific aspects of the Act itself, and leave that for Congress to evaluate. However, she did want to respond to some of the moves that CRSRA is already making that address some of the recommendations offered by ACCRES. For example, as mentioned by James earlier, the Department of Commerce is working on the reorganization of OSC and CRSRA under one office under the Office of the Secretary with an appointee directing the office.
 - CRSRA is hoping that this leads to an office that is more adequately resourced to handle the growing complexity of this industry.
 - Additionally, ACCRES recommended greater community engagement. Tahara agrees with this, and hopes to increase these efforts. One of the first things that CRSRA hopes to do is hold a workshop in late summer or early autumn with other government agencies on satellite licensing. This will be a 3 to 5 days workshop with plans to invite speakers from all other agencies involved in space activities and licensing to come speak about their process and challenges and see how this intersects with CRSRA licensing and regulation.
- Task Group 2: Recommendations on Non-Earth and Night-Time Imaging License Conditions
 - Tahara provided background on where the USG is with the new licensing conditions: CRSRA has incorporated a set of NEI conditions in all of our licenses. And the NTI and SWIR conditions as applicable to the licensee.
 - There are some aspects of the license conditions that the USG are still working to resolve amongst the interagency.
 - She also noted that it is always possible for licensees to apply for waivers to any of these conditions based on their particular circumstances.
- Task Group 3: Recommendations on the Data Protection Plan and Template

- CRSRA is currently working on using what ACCRES has provided for the template DPP to develop a new DPP. She is hoping to roll it out to licensees in conjunction with the licensing workshop that CRSRA holds later in the year.
- Tahara mentioned that she specifically liked the tiered structure for the new DPP that will be integrated into the new DPP.
- She also mentioned that she would like to see a set of performance standards that are consistent with the commercially reasonable practices for each tier. Would ACCRES and specifically Task Group 3 want to take on this follow-on task? The goal would be to create a set of minimum encryption/data protection standards for the three tiers.
- **Action:** David Langan will lead Task Group 3 in establishing the follow-on set of standards of data protection for the three tiers.

Updates to Regulations & Task Group Formation – Committee Discussion

- NOAA is looking to update the current 15 CFR 960 on Licensing Private Land Remote Sensing Space Systems. Glenn Tallia from NOAA General Counsel provided context for this on NOAA's end. NOAA will be submitting an Advance Notice of Proposed Rulemaking (ANPRM) to ask the public for inputs on changes to the current regulations. NOAA will be reviewing the regulations, comment on them, and work with other agencies to make changes to the rule. Generally, it takes up to 1-2 years to fully update the regulations from start to finish. But we're hoping to begin the process immediately and will be publishing the ANPRM by May.
- Herb asked for volunteers to help develop the Task group 1 recommendations for updated the regulations. Bhavya volunteered to lead the group. Additionally, the group will include: Michelle, David G., David L., and Robbie.
- **Action:** Task Group 1 will set up a meeting to provide their own set of recommendations and comments on updating the regulations. They will take the 2015 ACCRES Recommendations as a starting point for this task.

Closing

- Herb thanked everyone who came and thanked NOAA for improving the timing for issuing licenses.
- Newly developed task groups will report out at the next ACCRES meeting with their recommendations. The meeting will likely be held September 20, 2018.
- NOAA welcomes recommendations from the Committee for future task groups.